

## Module 6 Allergic Reaction

1. **Which of the following is a general term for a substance to which the body may have an anaphylactic reaction?**
  - a. Pathogen
  - b. Allergen
  - c. Antibody
  - d. Pyrogen
2. **What is another name for a severe allergic reaction?**
  - a. Dermatitis
  - b. Asthma
  - c. Anaphylaxis
  - d. Psychosomatic reaction
3. **Which of the following does NOT commonly lead to anaphylaxis?**
  - a. Peanuts
  - b. Cat dander
  - c. Wasp stings
  - d. Sulfa drugs
4. **Upon delivering a patient to the emergency department, you remove your gloves and find that your hands are red and itchy. Which of the following is most likely?**
  - a. You are showing early signs of an anaphylactic reaction.
  - b. You have come into contact with poison ivy in the patient's yard.
  - c. You have been exposed to an infectious disease through contact with the patient.
  - d. You are having an allergic reaction to the latex in the gloves.
5. **As you prepare to enter a patient's room in a nursing home, you see a sign posted on the door indicating that the patient has a latex allergy. Which of the following is the BEST way to care for the patient?**
  - a. Only perform a history on this patient, not a physical exam, so you can avoid contacting him with your gloves.
  - b. Ask the nursing staff if the patient has an epinephrine auto-injector available in case of a reaction to your gloves.
  - c. Put on latex gloves anyway; you must protect yourself with BSI.
  - d. Ask the nursing facility staff to find synthetic exam gloves to wear for contact with this patient.
6. **A severe allergic reaction will usually occur within what time period following exposure to the substance to which the patient is allergic?**
  - a. 15 to 30 minutes
  - b. 2 to 4 minutes
  - c. 10 to 15 minutes
  - d. 30 minutes to 2 hours
7. **Which of the following statements concerning severe allergic reactions is true?**
  - a. The quicker the onset of symptoms, the greater the likelihood of a severe allergic reaction.
  - b. A severe allergic reaction can be prevented by the use of an epinephrine auto-injector before exposure to the substance.
  - c. Allergies do not develop until a person is in his late teens to early 20s.
  - d. A severe allergic reaction occurs only when the patient has never been exposed to the substance before.
8. **Which of the following is NOT a sign or symptom of an allergic reaction involving the skin?**
  - a. Cyanosis
  - b. Flushing
  - c. Hives
  - d. Itching

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9. **Which of the following is MOST likely to be a complaint of a patient suffering from anaphylaxis?**
  - a. "I am having severe muscle pains."
  - b. "My legs are numb and I can't move them."
  - c. "My throat feels like it is closing."
  - d. "I can't remember what happened."
10. **Which of the following would you expect to hear when auscultating the lungs of a patient having an anaphylactic reaction?**
  - a. Clear, adequate air movement
  - b. Fine, wet crackles or rales
  - c. Coarse-sounding rhonchi
  - d. Wheezing
11. **You have responded to a park where you find a 23-year-old female sitting on a bench near a running trail. She states that she has been running for the past 30 minutes, and all of a sudden she can't catch her breath. She states that this has never happened before and she usually runs 5 miles a day. Your assessment reveals that she is flushed, her pulse is fast and weak, her respirations are fast and she is wheezing, and she has hives on her arms and chest. She is most likely suffering from which of the following?**
  - a. Anaphylaxis
  - b. Heat stroke
  - c. Allergic reaction
  - d. Hyperventilation syndrome
12. **Which of the following is included in the primary assessment of a conscious patient suffering from anaphylactic shock?**
  - a. Assessing whether the patient is able to speak without difficulty
  - b. Finding out how the patient was exposed to the substance to which she is allergic
  - c. Looking for hives and swelling
  - d. Determining whether the patient's systolic blood pressure is over 100 mmHg
13. **You are managing a patient who has been stung by a bee and has had an allergic reaction to bee stings in the past. The patient has some localized redness and swelling in the area of the bee sting but is not having difficulty breathing. Of the following, which would be performed first for this patient?**
  - a. Continue the focused assessment.
  - b. Perform a head-to-toe exam.
  - c. Advise him to take an oral antihistamine, such as Benadryl.
  - d. Assist him with his epinephrine auto-injector.
14. **Your patient is experiencing signs and symptoms of an allergic reaction. Which of the following is a priority in this patient's care?**
  - a. Begin rapid transport.
  - b. Administer oxygen by nonrebreather mask.
  - c. Decontaminate the patient by flushing with copious amounts of water.
  - d. Assist her with her epinephrine auto-injector.
15. **Which of the following is the reason why infants rarely experience anaphylactic reactions?**
  - a. Infants have not yet developed antibodies to allergens.
  - b. Infants have received natural immunity to allergens from their mothers before birth.
  - c. Allergens do not affect infants.
  - d. None of the above
16. **Which of the following is a trade name for an epinephrine auto-injector?**
  - a. Autodrenalin®
  - b. AllerPen®
  - c. Anajector®
  - d. Epi-Pen®

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17. **Which of the following occurs to blood vessels during an anaphylactic reaction?**
  - a. Constriction
  - b. No change
  - c. Spasm
  - d. Dilation
18. **Which of the following changes commonly occurs in the cardiovascular system during anaphylaxis?**
  - a. Low blood pressure due to vasodilation
  - b. High blood pressure due to tachycardia
  - c. High blood pressure due to vasoconstriction
  - d. Low blood pressure due to bradycardia
19. **Which of the following explains why a patient may experience difficulty breathing during anaphylaxis?**
  - a. Swelling in the brain decreases the respiratory drive.
  - b. Swelling of the airway tissues causes difficulty breathing.
  - c. Allergens clump together and block blood flow through the lungs.
  - d. Allergens bind to hemoglobin, preventing it from carrying oxygen.
20. **Which of the following is an action caused by epinephrine in anaphylaxis?**
  - a. Decreased heart rate
  - b. Vasoconstriction
  - c. Bronchoconstriction
  - d. All of the above
21. **The epinephrine contained in an auto-injector is in which of the following forms?**
  - a. Gel
  - b. Topical ointment
  - c. Liquid
  - d. Fine powder
22. **How many dose(s) of medication does the Twinject epinephrine auto-injector contain?**
  - a. Four
  - b. Three
  - c. Two
  - d. One
23. **Most epinephrine auto-injectors, except the Twinject, contain how many doses of epinephrine?**
  - a. Two
  - b. Three
  - c. One
  - d. None of the above
24. **Which of the following is the adult dosage of subcutaneous epinephrine in anaphylaxis?**
  - a. 3 mg
  - b. 0.3 mg
  - c. 30 mg
  - d. 0.03 mg
25. **Which of the following is the dosage of subcutaneous epinephrine in a pediatric patient?**
  - a. 1.5 mg
  - b. 0.3 mg
  - c. 0.15 mg
  - d. 0.03 mg

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26. **At which of the following sites should the EMT administer an epinephrine auto-injector?**
- Abdomen
  - Upper arm
  - Thigh
  - Buttocks
27. **Which of the following needs to be considered by the EMT before administering an epinephrine auto-injector?**
- All of the choices need to be considered
  - Verification that the drug has been prescribed to the patient
  - Color of the contents
  - Expiration date of the drug
28. **Your patient has eaten a casserole that may have contained seafood. The patient is worried because he has a seafood allergy. Upon assessment, you find no signs or symptoms of anaphylaxis. The patient's vital signs are stable and he has an epinephrine auto-injector prescribed to him. Which of the following actions is most appropriate?**
- Assist him with the administration of his epinephrine auto-injector.
  - Advise the patient that he does not require treatment and transport at this time.
  - Try to find out if the casserole contained seafood.
  - Transport the patient rapidly before the onset of anaphylaxis.
29. **Your patient is a 45-year-old female who is allergic to sesame seeds, which she accidentally ingested when she ate a deli sandwich. She is having difficulty breathing, and she has hives, watery eyes, a weak pulse of 120 per minute, and swelling of the face and tongue. Which of the following is the BEST course of immediate action?**
- Transport immediately.
  - Contact medical control for orders to administer the patient's epinephrine auto-injector.
  - Contact dispatch to see where the closest ALS unit is.
  - Insert an oropharyngeal airway.
30. **Within what period of time should the EMT expect most anaphylaxis patients to respond to the administration of subcutaneous epinephrine?**
- Within 15 to 30 seconds
  - Within 2 minutes
  - Within 20 minutes
  - Within 10 minutes
31. **Which of the following is NOT an indication that epinephrine is helping the anaphylaxis patient's condition?**
- Increased blood pressure
  - Increased heart rate
  - Increased dyspnea
  - Both B and C
32. **You are on the scene of a motor vehicle collision in which a car has driven off the roadway and is resting at the bottom of an embankment. The driver is in severe respiratory distress and is unable to speak. His skin is flushed and he has hives. A Medic-Alert bracelet indicates an allergy to peanuts. You notice a candy bar wrapper on the floor of the car. Which of the following should you do first?**
- Administer high-concentration oxygen.
  - Read the candy wrapper to see if it contains peanuts.
  - Perform rapid extrication.
  - Search the patient for an epinephrine auto-injector.

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33. Which of the following is NOT a side effect of epinephrine?
- a. Pallor
  - b. Vomiting
  - c. Bradycardia
  - d. Chest pain
34. Which of the following is the proper method of disposing of a used epinephrine auto-injector?
- a. Bend the needle at an angle to prevent accidental punctures and place it in the trash.
  - b. Place the device in a rigid biohazardous sharps disposal container.
  - c. Leave it at the scene for the patient or his family to dispose of.
  - d. Take it to the hospital for disposal in the emergency department.
35. Your patient has a history of severe anaphylaxis and carries several auto-injectors. You have administered one of the auto-injectors, but the patient's condition continues to worsen. Which of the following is the next best course of action?
- a. Divert transport to a hospital with critical care capabilities.
  - b. Continue supportive care en route to the hospital.
  - c. Contact medical control.
  - d. Immediately administer a second auto-injector.
36. After activating the auto-injector, how long should it be held in place before removing it from the patient's thigh?
- a. 30 seconds
  - b. 10 seconds
  - c. 1 minute
  - d. It should be removed from the injection site immediately.
37. A 35-year-old female has just eaten lobster and is now complaining of itchy, watery eyes. Her blood pressure is beginning to fall, but she denies difficulty breathing. Which of the following best describes her condition?
- a. Anaphylaxis
  - b. Dyspnea
  - c. Shock
  - d. Mild allergy
38. Your patient states that he is having an allergic reaction to a bee sting. He denies difficulty breathing, has normal vital signs, and has no evidence of hives. He has no signs of distress. Which of the following should you do for this patient?
- a. Administer oral antihistamines, such as Benadryl.
  - b. Immediately administer oxygen.
  - c. Continue with your secondary assessment.
  - d. All of the above
39. You are transporting a 41-year-old female suffering from severe anaphylaxis. Her respiratory rate is 42 per minute, she is cyanotic, and she has a decreased level of responsiveness. Which of the following is the highest priority of care for this patient?
- a. Elevate the patient's head.
  - b. Transport rapidly.
  - c. Search for an epinephrine auto-injector.
  - d. Assist ventilations with a bag-valve mask.

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40. **You are treating a 28-year-old female who is 34 weeks pregnant. She has a history of bee sting anaphylaxis and was stung by a bee while in the garden. She is having severe respiratory distress and her blood pressure is 72/50 mmHg. Which of the following is the BEST option for the EMT?**
- Transport rapidly, bypassing the emergency department and taking the patient directly to the obstetrics unit of the hospital.
  - Immediately administer the patient's Epi-Pen®.
  - Do not administer the Epi-Pen® under any circumstances.
  - Administer the Epi-Pen® only on the advice of medical control.
41. **When documenting the administration of an epinephrine auto-injector, which of the following should be included?**
- The patient's response to the medication
  - The site of medication administration
  - The time the medication was administered
  - All of the above
42. **You are unsure if a patient's condition requires the administration of an epinephrine auto-injector. Which of the following actions is most appropriate?**
- Ask a family member if this is the type of situation when the patient usually takes his auto-injector.
  - Administer the epinephrine, just in case.
  - Consult with a paramedic on your service for advice.
  - None of the above
43. **A patient to whom you have administered epinephrine should be reassessed every \_\_\_\_\_ minutes.**
- 3
  - 15
  - 5
  - 10
44. **If a patient was having a myocardial infarction, not an allergic reaction, and received an epinephrine auto-injection, which of the following would most likely occur?**
- Bradycardia
  - Stronger and faster heartbeat
  - No reaction if administered inadvertently
  - Relief of shortness of breath
45. **Which of the following does a physician NOT take into consideration when writing a prescription for a patient to obtain an epinephrine auto-injector?**
- The patient's medical history
  - The severity of previous allergic reactions
  - How far the patient lives from medical attention
  - The patient's known allergies
46. **Which of the following is NOT an indication for the administration of an epinephrine auto-injector?**
- The patient possesses an epinephrine auto-injector.
  - The patient has been exposed to a known allergen.
  - The patient is suffering from hypotension following exposure to a substance to which he is allergic.
  - The patient is suffering from respiratory distress following exposure to a substance to which he is allergic.

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47. **Your patient is a 7-year-old girl who was prescribed an antibiotic for an ear infection. After 4 days on the antibiotic, the patient is experiencing hives and itching on her face, throat, and neck. Which of the following should you do?**
- Advise the parents that these symptoms are related to the ear infection and the antibiotic will take care of these symptoms if taken as directed.
  - Provide supportive care and monitor the patient's condition during transport to the hospital.
  - Advise the parents to call the pediatrician for a different antibiotic.
  - Immediately administer Epi-Pen Jr.®
48. **Which of the following is the result of histamine and other chemicals in the body during anaphylaxis?**
- Urticaria occurs due to fluid being shunted from the skin, causing dehydration of tissue.
  - Blood vessels constrict, capillaries become leaky, and bronchoconstriction occurs.
  - Capillaries become leaky, bronchoconstriction occurs, and swelling appears in areas around the vocal cords.
  - Bronchodilation occurs, blood vessels dilate, and swelling appears in areas around the vocal cords.
49. **You are called to the local park on a hot summer day for an 8-year-old child in respiratory distress. The child can barely speak and appears to be getting sleepy. Vital signs are blood pressure 90/60, pulse 120, and respiratory rate 32. Your physical exam reveals a swollen tongue, inspiratory stridor, wheezing, and hives on the neck and chest. What condition do you suspect?**
- Asthma
  - Heat exhaustion
  - Allergic reaction
  - Anaphylaxis
50. **You are called to a residence for a 60-year-old male complaining of chest pain. You find the patient seated in bed. His past medical history includes hypertension and high cholesterol. The patient presents with hives over the chest, stridor, a swollen tongue, and wheezing in the upper fields. He denies any shortness of breath or respiratory distress. What condition do you suspect?**
- Anaphylaxis
  - Asthma
  - Acute myocardial infarction
  - Angina pectoris
51. **You are called to a residence for a 58-year-old male complaining of chest pain. He has a history of a prior myocardial infarction. The patient presents with hives over the chest, stridor, a swollen tongue, and wheezing of the upper fields. He denies any shortness of breath. What should your next question be?**
- How long have you had the chest pain?
  - When did your symptoms begin?
  - Are you allergic to anything?
  - Is the chest pain constant or intermittent?
52. **You are called to a residence for a 60-year-old male complaining of chest pain. He is alert and oriented to time, place, and person. His past medical history includes hypertension and high cholesterol. The patient presents with hives over the chest, stridor, a swollen tongue, and wheezing in the upper fields. He is breathing 24 times per minute and speaking in complete sentences. He denies any shortness of breath or respiratory distress. What should be your first action?**
- Contact medical control.
  - Insert a nasopharyngeal airway before the airway swells shut.
  - Apply oxygen by nonrebreather mask.
  - Perform a rapid assessment.

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53. You are called to a residence for a 50-year-old male complaining of difficulty breathing. He is alert and oriented to time, place, and person. The patient presents with hives over the chest, stridor, a swollen tongue, and wheezing in the upper fields. He is breathing 32 times per minute. He is speaking in two- to three-word sentences. What is the best treatment for the patient?
- Administering epinephrine with consent from medical control
  - Oxygen at 15 liters per minute by nonrebreather mask
  - Oxygen at 15 liters per minute by bag-valve mask
  - Rapid transport to the nearest facility
54. You are called to a farmhouse on a sunny spring afternoon. Upon arrival, a frantic mother tells you that her 3-year-old daughter was playing in the yard, accidentally stepped on a hornets' nest, and was stung repeatedly. The patient is alert, screaming and crying, and can follow her mother's commands. Her arms and legs are swollen and show the marks of several stings. Her body is covered in hives. Her vital signs are blood pressure 90/40, pulse 110, respiratory rate 24, and oxygen saturation 99 percent. Her lung sounds are clear and equal bilaterally. Her mother states she put "nox-a sting" on the bites but the bites only seemed to get worse. What condition is the patient suffering from?
- A minor anaphylactic reaction
  - A moderate anaphylactic reaction
  - An allergic reaction from the hornets' stings
  - An anaphylactic reaction from the "nox-a-sting" swabs
55. You are called to a farmhouse on a sunny spring afternoon. Upon arrival, a frantic mother tells you that her 4-year-old daughter was playing in the yard and stung repeatedly by several bees. The patient is alert, screaming and crying, and can follow her mother's commands. Her arms and legs are swollen and show the marks of several stings. Her body is covered in hives. Her vital signs are blood pressure 90/40, pulse 110, respiratory rate 24, and oxygen saturation 99 percent. Her lung sounds are clear and equal bilaterally. You decide to administer oxygen. What is the best method?
- Administer oxygen by bag-valve mask.
  - Administer oxygen by nonrebreather mask.
  - Administer oxygen by nasal cannula.
  - Administer oxygen by blow-by.
56. You are called to a farmhouse on a sunny spring afternoon. Upon arrival, a frantic mother tells you that her 3-year-old daughter was playing in the yard and accidentally stepped on a hornets' nest and was stung repeatedly. The patient is alert, screaming and crying, and can follow her mother's commands. Her arms and legs are swollen and show the marks of several stings. Her body is covered in hives. Her vital signs are blood pressure 90/40, pulse 110, respiratory rate 24, and oxygen saturation 99 percent. Her lung sounds are clear and equal bilaterally. The nearest hospital is 45 minutes away and the nearest ALS unit is 15 minutes away. Should ALS be dispatched?
- No, the patient is stable. Putting an ALS unit out of service is a waste of resources.
  - Yes, the patient's allergic reaction could potentially worsen.
  - No, the worst has already occurred, and she does not need an ambulance.
  - Yes, the patient is having an anaphylactic reaction and she could stop breathing at any moment.
57. You are on the scene of a 22-year-old female patient who is unresponsive. The patient's mother states that she is deathly allergic to peanuts and accidentally ate stir fry cooked in peanut oil. The patient is unresponsive with agonal respirations at 6 per minute. What is your first action?
- Administer epinephrine with medical control consent.
  - Insert an oral airway and apply oxygen at 15 liters per minute by nonrebreather mask.
  - Insert an oral airway and apply oxygen at 15 liters per minute by bag-valve mask.
  - Perform a complete assessment and confirm that the patient is actually in anaphylaxis.



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58. You are on the scene of a 22-year-old female patient who is unresponsive. The patient's mother states that she is deathly allergic to peanuts and accidentally ate stir fry cooked in peanut oil. The patient is unresponsive with agonal respirations at 6 per minute. You insert an oral airway and administer oxygen at 15 liters per minute by bag-valve mask. You notice that it is difficult to bag the patient. Your partner listens to lung sounds and states they are very diminished in the upper fields and absent in the lower fields. What is the best action?
- Request an ALS unit.
  - Hyperventilate the patient.
  - Request orders from medical control for an emergency cricothyroidotomy.
  - Request orders from medical control to administer epinephrine.
59. You are on the scene of a 22-year-old female patient who is unresponsive. The patient's mother states that she is deathly allergic to peanuts and accidentally ate stir fry cooked in peanut oil. The patient is unresponsive with agonal respirations at 6 per minute. You insert an oral airway and administer oxygen at 15 liters per minute by bag-valve mask. You notice that it is difficult to bag the patient. Your partner listens to lung sounds and states they are very diminished in the upper fields and absent in the lower fields. After administering epinephrine per medical control via an auto-injector, your partner reassesses the lung sounds. He tells you that she is now wheezing loudly in all fields. What is your suspicion regarding the patient's condition?
- The patient's condition is worsening.
  - The patient's condition is improving.
  - There is no change in the patient's condition.
  - The patient is about to go into cardiac arrest.
60. You are on the scene of a 30-year-old male patient who is unresponsive. You suspect the patient is suffering from a severe anaphylactic reaction. The patient is unresponsive with agonal respirations at 6 per minute. You insert an oral airway and administer oxygen at 15 liters per minute by bag-valve mask. You notice that it is difficult to bag the patient. Your partner listens to lung sounds and states they are diminished in the upper fields and absent in the lower fields. After administering epinephrine per medical control via an auto-injector, your partner reassesses the lung sounds. He tells you that she is now wheezing loudly in all fields. What is the next action you should perform?
- Discontinue bagging the patient.
  - Place the patient on a nonrebreather mask.
  - Hyperventilate the patient.
  - Contact medical control and request to administer another dose of epinephrine.

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### Test Name: Mod. 6 Allergic Reaction

1. b. Allergen
2. c. Anaphylaxis
3. b. Cat dander
4. d. You are having an allergic reaction to the latex in the gloves.
5. d. Ask the nursing facility staff to find synthetic exam gloves to wear for contact with this patient.
6. b. 2 to 4 minutes
7. a. The quicker the onset of symptoms, the greater the likelihood of a severe allergic reaction.
8. a. Cyanosis
9. c. "My throat feels like it is closing."
10. d. Wheezing
11. a. Anaphylaxis
12. a. Assessing whether the patient is able to speak without difficulty
13. a. Continue the focused assessment.
14. b. Administer oxygen by nonrebreather mask.
15. a. Infants have not yet developed antibodies to allergens.
16. d. Epi-Pen®
17. d. Dilation
18. a. Low blood pressure due to vasodilation
19. b. Swelling of the airway tissues causes difficulty breathing.
20. b. Vasoconstriction
21. c. Liquid
22. c. Two
23. c. One
24. b. 0.3 mg
25. c. 0.15 mg
26. c. Thigh
27. a. All of the choices need to be considered
28. c. Try to find out if the casserole contained seafood.
29. b. Contact medical control for orders to administer the patient's epinephrine auto-injector.
30. b. Within 2 minutes
31. c. Increased dyspnea
32. a. Administer high-concentration oxygen.
33. c. Bradycardia
34. b. Place the device in a rigid biohazardous sharps disposal container.
35. c. Contact medical control.
36. b. 10 seconds
37. a. Anaphylaxis
38. b. Immediately administer oxygen.
39. d. Assist ventilations with a bag-valve mask.
40. d. Administer the Epi-Pen® only on the advice of medical control.
41. d. All of the above
42. d. None of the above
43. c. 5
44. b. Stronger and faster heartbeat
45. c. How far the patient lives from medical attention
46. a. The patient possesses an epinephrine auto-injector.
47. b. Provide supportive care and monitor the patient's condition during transport to the hospital.
48. c. Capillaries become leaky, bronchoconstriction occurs, and swelling appears in areas around the vocal cords.
49. d. Anaphylaxis
50. a. Anaphylaxis
51. c. Are you allergic to anything?
52. c. Apply oxygen by nonrebreather mask.
53. a. Administering epinephrine with consent from medical control
54. c. An allergic reaction from the hornets' stings

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- 55. d. Administer oxygen by blow-by.
- 56. b. Yes, the patient's allergic reaction could potentially worsen.
- 57. c. Insert an oral airway and apply oxygen at 15 liters per minute by bag-valve mask.
- 58. d. Request orders from medical control to administer epinephrine.
- 59. b. The patient's condition is improving.
- 60. d. Contact medical control and request to administer another dose of epinephrine.